

PATENT COOPERATION TREATY
PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
 (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2003P16152WO	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/EP2004/010254	International filing date (<i>day/month/year</i>) 14.09.2004	Priority date (<i>day/month/year</i>) 29.10.2003
International Patent Classification (IPC) or national classification and IPC B65H3/04		
Applicant SIEMENS AKTIENGESELLSCHAFT		

<ol style="list-style-type: none"> 1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of 7 sheets, including this cover sheet. 3. This report is also accompanied by ANNEXES, comprising: <ol style="list-style-type: none"> a. <input type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of _____ sheets, as follows: <ul style="list-style-type: none"> <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
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<ol style="list-style-type: none"> 4. This report contains indications relating to the following items:
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

 - international search (Rule 12.3 and 23.1(b))
 - publication of the international application (Rule 12.4)
 - international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

the international application as originally filed/furnished
 the description:
 pages 1–6 as originally filed/furnished
 pages* _____ received by this Authority on _____
 pages* _____ received by this Authority on _____

the claims:
 nos. 1–8 as originally filed/furnished
 nos.* _____ as amended (together with any statement) under Article 19
 nos.* _____ received by this Authority on _____
 nos.* _____ received by this Authority on _____

the drawings:
 sheets 1/2–2/2 as originally filed/furnished
 sheets* _____ received by this Authority on _____
 sheets* _____ received by this Authority on _____

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. The amendments have resulted in the cancellation of:

the description, pages _____
 the claims, nos. _____
 the drawings, sheets/figs _____
 the sequence listing (*specify*): _____
 any table(s) related to sequence listing (*specify*): _____
4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages _____
 the claims, nos. _____
 the drawings, sheets/figs _____
 the sequence listing (*specify*): _____
 any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1–8	YES
	Claims	_____	NO
Inventive step (IS)	Claims	1–8	YES
	Claims	_____	NO
Industrial applicability (IA)	Claims	1–8	YES
	Claims	_____	NO

2. Citations and explanations (Rule 70.7)

1. This report makes reference to the following documents:

D1: US-A-3 372 925
 D2: FR-A-2 657 857
 D3: FR-A-2 679 539
 D4: US-A-1 858 320
 D5: US-A-6 135 441

D5 is not cited in the international search report, but is cited in the application. A copy of D5 is appended.

2. D5 is considered to be the prior art closest to the subject matter of claim 1. D5 discloses (the references in parentheses are to D5):

"device for singulating overlapping flat mailpieces in a travel path, said device comprising a plurality of singulating sections (23, 29) arranged along the travel path, each singulating section (23, 39) having conveyor belts (54, 73, 75) that carry the mailpieces and, on the

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opposite side, retaining elements (67) that exert frictional force on the mailpieces at a height between the transport belts.

Thus the subject matter of claim 1 differs from the device known from D5 in that the speed of travel of the conveyor belts in each singulating section is greater than the speed of travel of the conveyor belts of the respective singulating section located upstream thereof in the direction of travel, and in that individually mounted deflection rollers for the conveyor belts of both adjacent singulating sections are placed at different heights along a common axis at each transition between the singulating sections.

The subject matter of claim 1 is therefore novel (PCT Article 33(2)).

The problem to be solved by the present invention can therefore be regarded as that of designing a device for singulating overlapping flat mailpieces with which high output, a low overlapping rate at the end of the device and a low mailpiece damage rate can be achieved also with mailpieces that are very different in terms of length, height, thickness or rigidity.

To solve this problem, multilevel acceleration with no transfer gaps between the levels is provided for the singulating process, whereby absolutely collision-free transfer of mailpieces

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to the subsequent singulating section is achieved.

Owing to the fact that the device has multiple levels, the forces acting on the mailpieces can be held relatively low during acceleration.

The solution to this problem as proposed in claim 1 of the present application involves an inventive step for the following reasons (PCT Article 33(3)):

D5 does not suggest providing different speeds of travel of the conveyor belts in each singulating section and arranging deflection rollers of the conveyor belts of adjacent singulating sections at different heights along a common axis.

D1 does not suggest providing, in each singulating section, a retaining element that exerts a frictional force on the mailpieces at a height between the conveyor belts. In contrast to the present invention, only one vertical plate which presses the mailpiece stack against a conveyor belt is provided in the first singulating section in the direction of travel of the mailpieces. D1 is therefore based on a different inventive concept.

D2 and D3 both describe the transfer of mailpieces between two conveying sections across a transfer gap with increasing speed of travel. D2 and D3 do not, however, suggest arranging the deflection rollers at the transition between the transport

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sections at different heights on a common axis.

Furthermore, D2 and D3 do not suggest any retaining elements that are provided between the conveyor belts.

It is known from D4 to transfer mailpieces between two transport sections at difference speeds of travel without transfer gaps. For this purpose, individually mounted deflection rollers for the conveyor belts of two adjacent transport sections are arranged at alternating heights on a common axis. However, D4 does not suggest any retaining elements that are provided between the conveyor belts.

3. Claims 2 to 8 are dependent on claim 1 and therefore also meet the PCT requirements for novelty and inventive step.

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1. Claim 1 states that each singulating section comprises conveyor belts that convey the mailpieces and, on the opposite side, retaining elements that exert a frictional force on the mailpieces at a height between the conveyor belts. Thus it is unclear how the retaining elements are arranged with respect to the singulating sections such that the retaining elements can exert a frictional force on the mailpieces between the conveyor belts (PCT Article 6).